IN THE CLAIMS:

1. (Currently Amended) A microfluidic device comprising:

a substrate having at least one channel and at least one aperture in fluid communication with said channel;

a cover bonded to said substrate such that a reservoir is formed at said at least one aperture; and

~~and~~ a driving electrode comprised of an electrically conducting silver/silver chloride ink pattern on at least one of said substrate and cover such that when a material is present in said channel and reservoir said ink pattern makes electrical contact with said material.

2. (Original) The device of claim 1 wherein said ink pattern is on said cover.

3. (Original) The device of claim 1 wherein said electrical contact is made in said reservoir.

4. (Currently Amended) The device of claim 1 comprising a first channel, a second channel, and a third channel, ~~said~~ the first and second channel being fluidly connected to ~~said~~ the third channel at separate points along the third channel and wherein said electrical contact is made in one of ~~said~~ the first channel, second channel, and third channel.

5. (Currently Amended) The device of claim 1 wherein ~~the~~ said cover is bonded to ~~the~~ said substrate by one method selected from the group of thermal bonding, using an adhesive and using a double-sided adhesive layer.

6-7. (Canceled)

8. (Currently Amended) The device of claim 1 wherein ~~the~~ said material is a substance useful in electrophoretic applications.

9. (Currently Amended) The device of claim 1 wherein ~~the~~ said ink pattern is on said substrate.

10. (Currently Amended) The device of claim 1 wherein said ink is patterned on said cover using one method selected from the group of ink jet printing, screen printing and lithography.

11-13. (Canceled)

~~15.~~ 14. **(Currently Amended)** The device of claim 1 wherein said cover is made of PMMA.

~~16.~~ 15. **(Currently Amended)** The device of claim 1 wherein said ink is ~~one ink selected from the group consisting of polyester or~~ an acrylic-based ~~carbon/graphite ink, platinum ink, silver ink,~~ silver/silver chloride ink~~, and metal powder doped carbon ink~~.

~~17.~~ 16. **(Currently Amended)** The device of claim 1 wherein said ink is a polyester based silver/silver chloride ink.

~~18.~~ 17. **(Currently Amended)** The device of claim 1 wherein said ink pattern has width of 10 to 400 μm.

~~19.~~ 18. **(Currently Amended)** The device of claim 1 wherein said ink pattern includes a contact, and a lead~~, and a heating element~~.

19.-20. (Canceled)

~~22.~~ 21. **(Currently Amended)** The device of claim 1 wherein said substrate is made from a plastic selected from the group ~~comprising~~ consisting of norbornene, polystyrene, acrylic, polycarbonate-polyester, and polyolefin.

~~23.~~ 22. **(Currently Amended)** The device of claim 1 wherein said substrate is a norbornene based substrate.

23.-24. (Canceled)

~~26.~~ 25. **(Currently Amended)** A method for reducing bubble formation during electrokinetic applications in a microfluidic device having interconnected channels and reservoirs, said method comprising the steps of:

providing at least two driving electrodes for contacting a medium in said channels and reservoirs when the medium is present, wherein at least one driving electrode has a surface comprising silver and silver chloride; and

applying a voltage across the at least one driving electrode having a surface comprising silver and silver chloride and another driving electrode such that fewer bubbles form in said channels and reservoir as are formed when applying said voltage across driving electrodes of bare platinum.

~~applying voltage to a medium contained in said channels and reservoirs, said voltage being applied to said medium through an electrically conducting ink in electrical contact with said medium wherein said electrically conducting ink reduces bubble formation during application of said voltage to said medium.~~

~~27.~~ 26. **(Currently Amended)** The method of claim 25 ~~claim 26~~ wherein said microfluidic device comprises a substrate and a cover bonded to said substrate and wherein said ~~electrically conducting~~ electrodes are integrated electrodes formed using an ink ~~is~~ patterned on said cover such that when said cover is bonded to said substrate to form said device said ink is positioned in said reservoir and makes electrical contact with said medium therein.

~~28.~~ 27. **(Currently Amended)** The method of claim 25 ~~claim 26~~ wherein an electrode is positioned in one of said reservoirs to make electrical contact with said medium in said reservoirs and wherein said electrode comprises a silver/silver chloride ~~coating~~ coated electrode ~~of said electrically conducting ink~~.

~~29.~~ 28. **(Currently Amended)** The method of claim 25 ~~claim 26~~ wherein the ink is ~~selected from the group consisting of polyester or~~ an acrylic-based ~~carbon/graphite ink, platinum ink, silver ink,~~ silver/silver chloride ink~~, and metal powder doped carbon ink~~.

~~30.~~ 29. **(Currently Amended)** The method of claim 25 ~~claim 26~~ wherein the ink comprises a polyester-based silver/silver chloride ink.

33-44. (Canceled)